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1893-94

UNIVERSITY OF ILLINOIS

THE UNIVERSITY OF NEBRASKA

The Colleges

Courses of Study

Departments of Instruction

1893—1894

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PUBLISHED BY TH

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THE COLLEGES.

The University of Nebraska consists at present of three undergraduate Departments or Colleges, as follows:

The Academic College;

The Industrial College;

The College of Law.

A School of Graduate Instruction, not yet fully organized, is open to graduates of these and other colleges.

There is also a **School of Art and Music;** in which, pending the opening of the College of the Fine Arts, instruction is given in Drawing, Painting, Wood Carving, Modeling, and the History of Art; and in Instrumental and Vocal Music.

In connection with the Colleges are **Preparatory Courses,** in which instruction is provided for students denied this opportunity in the schools of their own neighborhood.

ACADEMIC COLLEGE.

CLASSICAL GROUP—Leading to the degree of B. A.

Required Courses.[1]

English,	1. 2.	4-5	Course.
Germanic Languages, or Romance Languages,[2]	1. 2.	2	"
Greek,	1. 2. 3. 4	2 : 4-5	"
Hygiene,		2-5	"
Latin,	1. 2. 3. 4	3 : 3-5	"
Mathematics,	1. 2	2	"
Philosophy,	1 or 9 or 11	3-5	"
Science,		4-5	"
Themes,		2-5	"
Electives,		12	"
Total,		25 : 2-5 courses.	

LITERARY GROUP—Leading to the degree of B. A.

Required Courses.

English,	1. 2	4-5	Course.
English Literature,	1. 2. 5. 6	2 : 4-5	"
European History,	1. 2. 3. 4	2 : 4-5	"
Germanic Languages, (according to preparation),	1. 2; or 3a. 4a.	2	"
Hygiene,		2-5	"
Mathematics,	1. 2	2	"
Philosophy,	1 or 9 or 11	3-5	"
Romance Languages, (according to preparation),	1. 2; or 3. 4.	2	"
Science,		4-5	"
Themes,		2-5	"
Electives,		10 : 4-5	"
Total,		25 : 2-5 courses.	

1. A "course" is one study carried five hours per week for one semester, or half-year—or its equivalent. The figures appearing in the list of required courses refer to the studies as shown under the respective Departments. See pages 9–24, where the Departments are arranged alphabetically.

Battallion drill, three hours each week, for three years, is required of all young men; and physical training, two hours each week, for two years, is required of all young women: unless excused by the Chancellor.

2. For French, see under Romance Languages.

PHILOSOPHICAL GROUP—Leading to the degree of B. A.

Required Courses

English,	1. 2	4-5	Course.
English Literature,	5. 6	1:1-5	"
History (either American or European),		1:3-5	"
Hygiene,		2-5	"
Latin,	1. 2. 3. 4	3:3-5	"
Mathematics,	1. 2	2	"
Modern Language, (either Germanic Languages, 1. 2; or 3a. 4a. or Romance Languages, 1. 2; or 3. 4. according to preparation),		2	"
Philosophy,	1. 2; or 9. 17; or 11. 12.	1:1-5	"
Science,		4-5	"
Themes,		2-5	"
Electives,		11:2-5	"
Total,		25:2-5 courses.	

ENGLISH GROUP—Leading to the degree of B. A.

Required Courses.

English,	1. 2. 3. 4. 5. 6	2:4-5	Courses.
English Literature	1. 2. 5. 6	2:4-5	"
History (either American or European),		1:3-5	"
Hygiene,		2-5	"
Mathematics,	1. 2	2	"
Modern Language,		2	"
Philosophy,	1 or 9 or 11	3-5	"
Science,		4-5	"
Themes,		2-5	"
Electives,		12	"
Total,		25:2-5 courses.	

INDUSTRIAL COLLEGE.

GENERAL SCIENTIFIC GROUP—Leading to the degree of B. Sc.

Required Courses.

Chemistry,	1. 2. 3. 4	2	Courses.
English,	1. 2. 3. 4	1:3-5	"
English Literature,	5. 6	1:1-5	"
Hygiene,		2-5	"
Mathematics,	1. 2	2	"
Military Science,	1. 2	2-5	"
Modern Language (according to preparation),		2	"
Physics,	1. 2. 3. 4	2	"
Science (any two Natural Sciences, each a 4-5 course),		1:3-5	"
Themes,		2-5	"
Electives,		12	"

Total, 25: 3-5 courses.

AGRICULTURAL GROUP—Leading to the degree of B. Sc.

Required Courses.

Agriculture,	1. 2	1:1-5	Courses.
Botany,	1. 2	4-5	"
Chemistry,	1. 2. 3. 4	2	"
English,	1. 2. 3. 4	1:3-5	"
English Literature,	5. 6	1:1-5	"
Entomology,	1. 2	4-5	"
Geology,	1. 2	4-5	"
Horticulture,	1. 2	4-5	"
Hygiene,		2-5	"
Mathematics,	1. 2	2	"
Military Science,	1. 2	2-5	"
Modern Language (according to preparation),		2	"
Physics,	1. 2. 3. 4	2	"
Themes,		2-5	"
Zoology,	1. 2	4-5	"
Electives,		9	"

Total, 26: 1-5 courses.

CIVIL ENGINEERING GROUP—Leading to the degree of B. Sc.

Required Courses.

Chemistry,	1. 2	4-5 Course.
Civil Engineering,	1. 2. 2a. 3. 4. 5. 6. 7. 8. 9. 11. 12. 13	9 : 1-5 "
Electrical & Steam Engineering	15	2-5 "
English,	1. 2	4-5 "
Geology,	1.	2-5 "
Hygiene,		2-5 "
Mathematics,	1. 2. 3. 4	4 "
Military Science,	1. 2	2-5 "
Modern Language (according to preparation),		2 "
Physics,	1. 2	1 : 1-5 "
Themes,		2-5 "
Thesis (or Electives),		2 "
Electives,		3 : 4-5 "
Total,		25 : 4-5 courses.

ELECTRICAL ENGINEERING GROUP—Leading to the degree of B. Sc.

Required Courses.

Chemistry,	1. 2. 3. 4	2 Courses.
Electrical & Steam Engineering,	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16.	8 : 2-5 "
English,	1. 2. 3. 4.	1 : 3-5 "
English Literature,	5. 6	1 : 1-5 "
Germanic Languages,	3b.	1 : 3-5 "
Graphics and Mechanical Drawing,		4-5 "
Hygiene,		2-5 "
Mathematics,	1. 2. 3. 4.	4 "
Military Science,		2-5 "
Physics,	1. 2. 3. 4. 15. 16	3 : 3-5 "
Romance Languages,		4-5 "
Shop Work,		1 : 1-5 "
Themes,		2-5 "
Thesis,		2 "
Total,		27 : 3-5 courses.

DEPARTMENTS OF INSTRUCTION.

AGRICULTURE.

FIRST SEMESTER.

1. **Breeds of Live Stock,**[1] and their adaptability.
   Stock-Breeding—Pedigrees, ... 3 hours.
3. **Anatomy and Physiology of Domestic Animals.**
   Diseases of Animals. Veterinary Obstetrics, ... 3 "
5. History of Agriculture, ... 3 "

SECOND SEMESTER.

2. **Feeding and Feeding Rations.**
   Dairying—Milk tests for fat as laboratory practice, ... 3 hours.[2]
4. **Irrigation—Drainage.**
   Farm Practice. Rotation of Crops, ... 3 "
6. Development of Cultivated Plants, and comparison with indigenous species, ... 1 hour.
7. Sugar-producing Plants, their culture and treatment, ... 1 "
8. Agriculture, under changing and improved conditions of transportation and markets, ... 1 "

AMERICAN HISTORY AND CIVICS.

FIRST SEMESTER.

1. American History to 1750, ... 5 hours.
   Course 12 of European History should precede this.
3. Political and Constitutional History of the United States, 1787–1829, 5 "
5. *The State. The origin and historical development of the State. The functions of the Modern State, ... 2 "
6. *Local Government. A special study will be made of the local institutions of Nebraska, ... 3 "
7. *Constitutional Law and Constitutional History of the United States, 3 "
10. *Seminary of American History, ... 2 "
    Post-graduate students, advanced under-graduate students, and such other persons as are interested in and competent to do the work, will be admitted to the Seminary.

1. Courses printed in this type are "required" in one or more Groups. See pages 5-8.

2. Each credit "hour" in all departments requiring laboratory practice is entitled to two hours laboratory work, plus one-half hour for preparation and withdrawal where such extra time is necessary.

SECOND SEMESTER.

2. American History, 1750–1789, ... 3 hours.
One or two hours of extra credit will be given for theme and lecture work.

4. Political and Constitutional History of the United States, 1829–1876, 3 "
One or two hours of extra credit will be given for theme and lecture work.

8. *Continuation of Course 7; or Comparative Constitutional Law, ... 3 "

9. The History of Political Parties in the United States, ... 3 "

11. *Seminary of American History, ... 2 "
For the coming year especial attention will be given to the problems of the period of the Civil War and Reconstruction.

12. *The Status of Women in America, ... 2 "

*For entrance to these courses the consent of the instructor must be obtained.

BOTANY.

FIRST SEMESTER.

1. **General Anatomy and Physiology of Plants**; laboratory work and lectures twice each week, ... 2 hours.

1a. **Botanical Technique**; laboratory and lectures once each week, ... 1 hour.

3. Special Anatomy and Physiology of the Higher Plants; laboratory and lectures twice each week. Must be preceded by 1, 2 and 1a or 2a. Only those who have shown special aptitude are advised to take up the work, ... 2 hours.

5. Study of Structure and Physiology of one Plant (laboratory and readings), ... 2 to 5 "

7. Comparative Anatomy of particular tissues or organs (laboratory and readings), ... 2 to 5 "

9. Study of a selected group of plants, including structure and classification (laboratory and readings), ... 2 to 5 "

11. Study of the flora of Lincoln, including collection of specimens and preparation of a catalogue, ... 2 to 5 "

13. Advanced work in Vegetable Physiology (laboratory and readings), ... 2 to 5 "

15. **General Botany**; open only to classical students in the third and fourth years of University residence, ... 2 "

SECOND SEMESTER.

2. **Special Anatomy and Physiology of the Lower Plants**; laboratory and lectures twice each week, ... 2 hours.

2a. **Botanical Technique**; laboratory and lectures once each week, ... 1 hour.

4. Continuation of Course 3, ... 2 hours.

6. Continuation of Course 5, ... 2 to 5 "

8. Continuation of Course 7, ... 2 to 5 "

10. Continuation of Course 9, ... 2 to 5 "

12. Continuation of Course 11, ... 2 to 5 "

14. Continuation of Course 13, ... 2 to 5 "

16. **Continuation of Course 15**, ... 2 "

Suggested Order of Work.

First Year: 1 and 2 (1a or 2a may be taken, also).

Second Year: 3, 4. (A part of 5, 6; 7, 8; 9, 10; or 11, 12; may be taken with 3 and 4.)

Third Year: 5, 6; 7, 8; 9, 10; 11, 12; or 13, 14; may be continued.

Fourth Year: The work of the third year may be continued.

CHEMISTRY.

FIRST SEMESTER.

1. **Study of the Metallic Elements** and their more common compounds, with five hours laboratory practice per week,.....2 hours
3. **Continuation of Courses 1 and 2,** with special study of characteristic reactions, with five hours laboratory practice per week,.....3 "
5. Gravimetric and Volumetric methods of quantitative analysis, with twelve and one-half hours of laboratory practice per week. (Must be preceded by 1, 2, 3 and 4.),.....5 "
7. Lectures on the History of Chemistry, with special reference to the work of eminent chemists,.....1 hour
9. Organic Chemistry; two lectures with four hours of laboratory practice per week. (Must be preceded by 1, 2, 3, 4, 5 and 6; or by 13 and 14.),.....2 hours
11. Reading of current Chemical literature and reports thereon. (Must be preceded by 1, 2, 3, 4, 5 and 6; or by 7 and 8.),.....1 hour.
13. Method of Analysis, gravimetric and volumetric, adapted to the investigations of agricultural problems, with fifteen hours of laboratory practice per week. (Must be preceded by 1, 2, 3 and 4. Required of Agricultural specials.), ...5 hours.
15. Investigation of important Chemical problems. (Must be preceded by 1, 2, 3, 4, 5, 6 (7, 8; or 13, 14;), 9, 10, 11, 12),.....5 "
17. Laboratory Course in Organic Chemistry,.....5 "

SECOND SEMESTER.

2. **Continuation of Course 1,**.....2 hours.
4. **Continuation of Course 3,**.....3 "
6. Continuation of Course 5,.....5 "
8. Continuation of Course 7,.....1 hour.
10. Continuation of Course 9,.....2 hours.
12. Continuation of Course 11,.....1 hour.
14. Continuation of Course 13,.....5 hours.
16. Continuation of Course 15,.....5 "
18. Laboratory Course in Organic Chemistry,.....5 "
19. The Chemistry of the Sugar Group: With special attention to its application in the manufacture of beet sugar; two lectures per week, with laboratory practice,.....2 "
20. Photography: With special reference to the chemical principles involved. (Must be preceded by 1, 2, and 3, 4.),.....2 "
21. Assaying: Fire assays of ores of gold, silver, lead, etc. (Must be preceded by 1, 2, and 3, 4.),.....2 "

CIVIL ENGINEERING.

FIRST SEMESTER.

1. **Graphics:** Descriptive Geometry. Orthographic projections of points, lines, planes, surfaces and solids. Eight hours weekly,..4 hours.
3. **Surveying:** Use of chain, tape, needle compass, level, transit, and solar attachment. Adjustment of instruments. U. S. land surveys. Recitations two hours, field work six hours,.....4 "
5. **Railroad Engineering:** Laying out curves. Location of a short line of railroad. Maps, profiles and preliminary estimates. Calculation of excavation and embankment. Transition curves. Theory of economic location with reference to probable traffic, cost of operation, and maintenance. Lectures two hours; field work ten hours until November,.....4 "
7. **Trusses:** Roofs; Bridges; Continuous girder; Detailed study of one of the Missouri River bridges. From November to close of semester, four hours weekly,.....3 "
9. **Materials of Construction:** Stress; Strain; Flexure of Beams; Springs; Experimental study of Materials, Columns, Plates, Riveted joints. Foundations, Arches, Domes. Four hours, with three hours laboratory work,.....5 "
11. **Water Supply and Sewerage:** Pressure and Motion of Water. Laws of flow in pipes and open channels. Measurements of discharge by orifices and weirs. Systems of water supply, pumping and distribution. Combined and separate systems of sewerage. Construction and appurtenances. Contracts and specifications. Lectures,.....2 "
12. **Drill in the routine of field work,**.....2 "

SECOND SEMESTER.

2. **Graphics:** Descriptive Geometry continued; Axonometric projection, surfaces of the second order, intersections; Shades and shadows; Linear perspective; eight hours weekly,.....4 hours.

2a. **Graphics;** Stereotomy: Stone cutting problems. Groined and cloistered arches; Oblique arch. Eight hours weekly,.....4 "

4. **Surveying:** Topographical work with plane table and stadia rods. Planimeter. City surveying. Mining surveying. Rating of current meter. Geodetic work. Recitations two hours, field work six hours,.....4 "
8. **Continuation of Course 7,**.....4 "
10. **Continuation of Course 9,**.....5 "
14. Irrigation Engineering.....2 "
16. **Continuation of Course 12,**.....2 "
18. **Statics,**.....3 "

ELECTRICAL AND STEAM ENGINEERING.

FIRST SEMESTER.

1. **Electrical Measurements:** Special problems involving exact electrical measurements, supplemented by reading on the problems assigned; eight hours in laboratory,.....3 hours.
3. **Applied Electricity:** A discussion of the principles of design and construction of Dynamos, Motors, Transformers, Lamps, etc., supplemented by work in the laboratory,.....2 "
5. **Principles of Electrical Installation:** In this course are discussed the design, equipment, care and management of Electric Light and Power Stations, Electric Railways, Telephone and Telegraph Systems, and the special applications of Electricity to industrial purposes,.....3 "
7. **Mathematical Theory of Electricity and Magnetism:** Requires a thorough knowledge of Calculus and its applications and should be preceded by course 15, Physics,.....4 "
9. **Applied Mechanics and Mechanism:** Principles of Mechanics and their application to the solution of Mechanical problems. Machines studied with reference to transmitting and modifying pure motion,.....2 "
11. **Machine Design and Mechanical Drawing:** Machines studied with reference to transmitting and modifying force; parts proportioned to stand given strains; working drawings of machines made,.....3 "
13. **Steam Engineering;** Study of types of Boilers and Engines, their design and construction; Boiler and Engine trials; Steam Pumps, Condensers, Heaters, and such accessory apparatus as are used in the economical generation and utilization of Steam Power,....2 "
15. **Theory of Prime Movers;** Theoretical study of the principles underlying the action of Steam, Hydraulic, and Pneumatic Machinery,.....2 "
17. Recent Advances in Applied Electricity. (Must be preceded by courses 3, 4.),.....2 "

SECOND SEMESTER.

2. **Continuation of Course 1,**.....3 hours.
4. **Continuation of Course 3,**.....2 "
6. **Continuation of Course 5,**.....3 "
8. **Continuation of Course 7,**.....4 "
10. **Continuation of Course 9,**.....2 "
12. **Continuation of Course 11,**.....3 "
14. **Continuation of Course 13,**.....2 "
16. **Continuation of Course 15,**.....2 "
18. Continuation of Course 17,.....2 "

ENGLISH.

FIRST SEMESTER.

1. **Rhetoric and English Composition;** Genung's Practical Elements of Rhetoric. Lectures, practice in writing themes, ...2 hours.
3. **Advanced Course in Rhetoric.** Study of the best Stylists and Models—Practical training in the formation of a correct style,...2 "
5. **Advanced Course in Composition.** Six themes. Practice in writing of daily themes. Lectures on the theory of Composition,3 "
7. History and principles of English Versification, with critical study of selections,.....1 hour.
9. Public Speaking, Practical Exercises in Debates and Addresses. (Must be preceded by courses 1 and 2.),.....2 hours.
11. Study of Orations; critical study of the great orators of ancient and modern times,.....2 "

SECOND SEMESTER.

2. **Continuation of Course 1,**.....2 hours.
4. **Continuation of Course 3,**.....2 "
6. **Continuation of Course 5,**.....3 "
8. Continuation of Course 7,.....1 hour.
10. Continuation of Course 9,.....2 hours.
12. Continuation of Course 11,.....2 "

Required Themes.

Students in all Groups are required to present to this department three themes in each year of residence, except the first in preparatory courses and the first in the colleges.

In the third year of college residence, each student is required to give one hour of attendance each week, and to read aloud before the class three themes and three criticisms.

Students in the fourth year of college residence are required to give one hour of attendance each week, and to present before the class three orations.

For the purposes of this department four years will be regarded as the normal time of residence. Students combining the work of two years must write the themes for both years.

ENGLISH LITERATURE.

FIRST SEMESTER.

1. **Anglo-Saxon and Early English**; Historical Study of English by principal authors, from Caedmon to Chaucer,.....4 hours.
3. Anglo-Saxon and Early English. (Must be preceded by 1 and 2.)..2 "
5. **English Literature**; Introductory. General survey from Chaucer to the modern period, with special study of chief authors, origin of various schools, and influence of other literatures. (Must be preceded in Literary Group by 1 and 2.),.....3 "
7. Shakespeare Course; First Year: Hamlet; Macbeth; Othello,....3 "
9. The Art of Shakespeare; Second Year: Cymbeline, Winter's Tale, Antony and Cleopatra, Coriolanus, Romeo and Juliet, King Lear. (Must be preceded by 7 and 8.),.....2 "
11. English Literature; Special studies in Tennyson and the great prosaists, with reference to the genesis and development of modern taste and standards; lectures on Æsthetics, resources of style, and comparison of literatures; practical criticism of Current Literature. (Must be preceded by 5 and 6.),.....3 "
13. Browning Course; Select Lyrics; Paracelsus; Sordello. (Must be preceded by 5 and 6.),.....2 "
15. Analytics of Literature; Studies in Poetry by Elements, from Chaucer to Tennyson. (Must be preceded by 5 and 6.),.....3 "
17. Shakespeare Seminar; Independent interpretation of special plays. (Must be preceded by 1, 2, 5, 6, 7, 8, 9, and 10.),.....2 "
19. Old Testament Poetry,.....1 hour.
21. Seminar; Investigation of special phases and forms in literary development. (Must be preceded by 1, 2, 5, 6, 11, 12, 13, 14, 15, and 16.)

SECOND SEMESTER.

2. **Continuation of Course 1,**.....4 hours.
4. Select Authors of the Elizabethan Era,.....2 "
6. **Continuation of Course 5,**.....3 "
8. Continuation of Course 7,.....3 "
10. Continuation of Course 9,.....2 "
12. American Literature. (Must be preceded by 5, 6, and 11.),.....3 "
14. Continuation of Course 13,.....2 "
16. Analytics of Literature; Studies in Prose Styles by Elements from Mandeville to Arnold. (Must be preceded by 5, 6, and 15.),.....3 "
18. Continuation of Course 17,.....2 "
20. Teacher's Course,.....1 hour.
22. Continuation of Course 21.

ENTOMOLOGY.

FIRST SEMESTER.

1. **Structure, Development, and Transformations of Insects,**.....2 hours.
3. **Economic Entomology.** Life-histories and habits of Insects, with remedies,.....1 hour.
5. Laboratory and field work on special groups,.....1 "
7. **Insect Enemies of Grains and Grasses,**.....1 "

SECOND SEMESTER.

2. **Continuation of Course 1,**.....2 hours.
4. **Continuation of Course 3,**.....1 hour.
6. Continuation of Course 5,.....1 "
8. **Insect Enemies of Domestic Animals,**.....1 "

EUROPEAN HISTORY.

FIRST SEMESTER.

1. **Grecian History,**.....4 hours.
3. **History of the Middle Ages,** to the Crusades,.....3 "
5. History of the Reformation,.....3 "
7. History of the French Revolution,.....3 "
9. History of Germany. (Two years of German are required as preparation for this course. A German text is used.),.....2 "

SECOND SEMESTER.

2. **Roman History,**.....4 hours.
4. **History of the Middle Ages,** from the Crusades to the Discovery of America.....3 "
6. History of the Thirty Years War, and the Absolute Monarchies,...3 "
8. History of the 19th Century to 1871,.....3 "
10. History of Germany,.....2 "
11. Church History,.....2 "
12. English History, 1485–1800,.....3 "

Courses 1, 2, 3, 4 must precede elective work.

SEMINAR.

Students who have taken courses 1, 2, 3, and 4, and have had one year of French, may become members of this seminar. The entire semester is devoted to the careful study of some topic taken from the period of the Fronde.

GEOLOGY.

FIRST SEMESTER.

1. **Elementary Geology;** recitations, lectures, and laboratory work. 2 hours.
3. Advanced Geology; recitations, lectures, and laboratory work,....2 "

SECOND SEMESTER.

2. **Continuation of Course 1;** with introductory Mineralogy, Lithology and prescribed readings,.....2 hours.
4. Continuation of Course 3; with Mineralogy, Lithology and general geological readings,.....2 "

GERMANIC LANGUAGES.

FIRST SEMESTER.

1. **Beginners' Course.** German Grammar and Readings,.....5 hours.
3a. **Chamisso's Peter Schlemihl.** Gœthe's Hermann und Dorothea. Dictation Exercises. (Literary and Classical Groups),.....5 "
3b. **Gore's German Science Reader.** Hodge's Scientific German (Scientific Group),[1].....5 "
5. German Literature of the XVIII Century, as represented by Lessing (Emilia Galotti, Minna von Barnhelm, Nathan der Weise); Schiller (Maria Stuart, Wallenstein's Tod or Die Braut von Messina). With lectures,.....3 "
7. Teachers' Course. For students who desire to fit themselves for teaching German. Conversation. Composition. (Should be taken in connection with course 5),.....2 "
*9. Gothic and its relation to other Germanic dialects,.....2 "
*11. Middle High German. Niebelungenlied. Parzival. Walter von der Vogelweide. (With lectures),.....2 "
13. Special Gœthe Course. Torquato Tasso. Italienische Reise. Iphigenie. Faust,.....2 "

SECOND SEMESTER.

2. **Andersen's Maerchen.** Storm's Immensee. Schiller's Das Lied von der Glocke,.....5 "
4a. **Fouque's Undine.** Schiller's Egmonts Leben und Tod. Belagerung von Antwerpen. Buchheim's Balladen und Romanzen. (Literary and Classical Group),.....5 "
4b. **Cohn's Ueber Bakterien.** Helmholtz' Ueber Gœthe's Wissenschaftliche Arbeiten. Schroot's Der Dampf. (Scientific Group), 5 "
6. German Literature of the XVIII Century. Continuation of Course 5. (With lectures),.....3 "
8. Continuation of Course 7. Written translations from English into German. Close Study of German Syntax. (Should be taken in connection with Course 6.),.....2 "
*10. Old High German. Grammar and texts,.....2 "
*12. Continuation of Course 11,.....2 "
14. Continuation of Course 13,.....2 "

1. Students in Electrical Engineering Group carry this but four hours each week.

* Only given in alternate years.

In addition to the courses offered there will be one weekly exercise in sight reading and pronunciation. This is designed to meet the wants of students and others who wish to "keep up" their German. No credits will be given.

GREEK.

FIRST SEMESTER.

1.	**Homer. Iliad and Odyssey,**	4 hours.
3.	**Sophocles. Antigone,**	3 "
5.	The Athenian Orators. Seminary in Oratory (1893-94),	3 "
7.	The Athenian Dramatists. Seminary in Tragedy (1894-95),	3 "
9.	The Comedies of Aristophanes,	3 "
11.	Demosthenes. Selected Orations,	2 "
13.	Plato. Apology, Crito, Euthyphro,	2 "
15.	Hellenistic Greek,	2 "
17.	Greek Prose Composition. Especially designed for teachers,	1 hour.
19.	History of Greek Art,	1 "

SECOND SEMESTER.

2.	**Selections from the Attic Orators. Dialogues of Lucian,**	4 hours.
4.	**Plato. Phædo. Lectures on the Greek Philosophers,**	3 "
6.	Continuation of Course 5,	3 "
8.	Continuation of Course 7,	3 "
10.	Continuation of Course 9,	3 "
12.	Thucydides. Selected portions,	2 "
14.	Greek Lyric Poets. Selections,	2 "
16.	Greek Grammar. Especially designed for teachers,	1 hour.
18.	Continuation of Course 19,	1 "

HORTICULTURE.

FIRST SEMESTER.

1.	Pomology,	2 hours.
3.	Landscape gardening; history and principles,	1 "
5.	Propagation, handicraft, and greenhouse management of flowering plants and vegetables,	1 "
7.	Recent experiments and results in horticulture. Seminary course,	2 "
9.	Original investigations. For advanced students only.	

SECOND SEMESTER.

2.	Olericulture or Vegetable Gardening,	2 "
4.	Arboriculture and Forestry	1 "
6.	Continuation of course 5	1 "
8.	Continuation of course 7. This course may be taken up at the beginning of either semester,	2 "
10.	Continuation of course 9.	

HYGIENE.

FIRST SEMESTER.

1. **Mental Hygiene.**—System and Method in Mental Work—General Personal Hygiene—Physiology of Bodily Exercise—Animal Mechanics. Lectures; With two hours (per week) practice in the gymnasium,.....1 hour.

SECOND SEMESTER.

2. **Digestion—Respiration—Sanitation.** Chemistry of Foods—Heating and Ventilation—Drains and Sewers. Care of the Sick—Accidents and Emergencies. Lectures; With two hours (per week) practice in the gymnasium,.....1 hour.

LATIN.

FIRST SEMESTER.

1. **Cicero:** De Senectute, with Prose Composition; and Syntax of Verbs reviewed,.....4 hours.
3. **Horace:** Selected Odes, Satires and Epistles,.....5 "
5. Terence: Adelphi, Prosody of the comic poets: Seutonius or Seneca, 2 "
7. Cicero: Selected letters; Tacitus: Annals,.....2 "
9. Lectures on Roman Archæology. (Illustrated),.....2 "
11. Advanced Latin Composition and Conversation,.....1 hour.
13. Latin Grammar: An elementary course in the Comparative Grammar of the Latin and Greek Languages,.....2 hours.
15. Roman Law: A course forming an introduction to the study of the principal European systems of Law,.....2 "
16. Teachers' Course. Vergil: Reading and Prosody. Lectures on Methods of Teaching Latin,.....1 hour.

SECOND SEMESTER.

2. **Livy:** Books XXI and XXII,.....4 hours.
4. **Plautus:** Captivi. Lectures on Roman Meters. **Tacitus:** Germania and Agricola; Lectures on Roman Literature and Roman Art,...5 "
6. Pliny; Selected Letters; Juvenal,.....2 "
8. Quintillian: Lectures on the Development of Latin Forms,..... 2 "
10. Lectures on Roman Antiquities. (Illustrated),.....2 "
12. Advanced Latin Composition and Conversation,.....1 hour.
14. Roman Inscriptions. Study of Select Inscriptions,.....2 hours.
17. Continuation of Course 16,.....1 hour.

MATHEMATICS.

FIRST SEMESTER.

1.	**Trigonometry, Plane and Spherical,**	5 hours.
1a.	**Higher Algebra,**[1]	3 "
3.	**Analytical Geometry,**	5 "
5.	**Calculus and Applications,**	5 "
7.	Differential Equations, Boole,[2]	5 "
9.	Geometry of Three Dimensions, Salmon,	5 "

SECOND SEMESTER.

2.	**Higher Algebra and Conic Sections,**	5 hours.
2a.	**Higher Algebra and Analytical Geometry,**	5 "
4.	**Calculus,**	5 "
6.	**Analytical Statics,**	5 "
8.	Differential Equations,	5 "
10.	Geometry of Three Dimensions,	5 "
12.	Determinants,	2 "

1. For students entering without Solid Geometry, September, '92.

2. Courses 7 and 9 are given in alternate years. Course 7 was given in '92–'93.

MILITARY SCIENCE.

FIRST SEMESTER.

1.	**Infantry Drill Regulations,**	1 hour.
3.	Artillery Drill Regulations, and Firing Regulations for Target Range and Battle Field,	1 "
5.	Elementary Field Engineering,—Construction of Field Fortifications, Hasty Entrenchments and Obstacles; Construction, Use and Demolition of Bridges, Railroads and Telegraph Lines. Elementary Principles of Art and Science of War—Strategy, Plan of Campaign, Offensive and Defensive Operations,	2 hours.

SECOND SEMESTER.

2.	**Infantry Drill Regulations,**	1 hour.
4.	Study of Duties of Guards and Sentinels, Army Regulations, Articles of War, and Customs of Service,	1 "
6.	Strategical Movements. Lectures on Logistics; Uses of Cavalry, Artillery and Infantry in Battle and Campaign; Improvements in Implements of War; Marches; Modern Wars; Important Campaigns; Military Reconnaissance and Topography, and Military Law. Practical Work in Selecting Positions and Laying out Fortifications,	2 hours.

PHILOSOPHY.

FIRST SEMESTER.

1. **Introductory Course in Psychology.** Nervous System, Sense Organs, Psycho-physical Methods and Results, Instincts, Consciousness, Attention, Association, Habit, Memory, Emotions, Will, Dreams and Hypnotism. Principal References: Ladd, Wundt, James, Bain, Sully, Baldwin, Ribot, Stumpf, Periodicals, 3 hours.
3. Experimental Psychology. Psychometry, Extent of Consciousness, Association and Interference of Ideas, Action of the Pulse, Memory, Binocular Vision, ...2 "
5. History, Theories and Methods of Education, ...2 "
7. Evolutional Psychology. General outline of comparative psychology with especial reference to the mind of the child, ...2 "
9. **Logic.** Fowler's Deductive and Inductive Logic; assigned readings in other authors. Practice in the use of syllogistic forms, mechanical equivalents, and in the reduction of complex arguments to logical forms, ...3 "
11. **History of Philosophy.** Outline study of the development and relation of philosophical systems from Thales to Spencer, ...3 "
13. Special studies in the History of Philosophy. In Idealism (Plato); in Criticism (Kant); in Evolution (Spencer), ...2 "

SECOND SEMESTER.

2. **Continuation of Course 1,** ....3 hours.
4. Experimental Psychology. A single topic will be investigated by each student, the literature of the topic will be examined, and the philosophy of experimental methods will be considered, ...2 "
6. **Continuation of Course 5,** ....2 "
8. Evolutional Psychology. Study of children, ...2 "
10. Logic Special topics, with reference to Mill's Logic, Boole's Laws of Thought, Jevon's Principles of Science, Wundt's Logik, ...2 "
12. **Continuation of Course 11,** ....3 "
14. Continuation of Course 13, ...2 "

*15. Attention and Will. A study in applied Psychology, with special reference to teaching, ...2 "

*16. Habit and Memory. A pedagogical study similar in purpose to the preceding. (Will not be given until 1894.), ...2 "

17. **Ethics.** General study of the principal theories. References: Martineau, Sidgwick, Stephen, Wundt, Spencer, Green, Paulsen, Fowler, ...3 "
18. Applied Ethics. Practical morality of the individual, of the family, and of society. Professional Ethics. Treatment of criminals, of the insane, and of the poor, ...2 "

Required work (three hours for one semester) may be taken in Psychology or Logic, or in the History of Philosophy under certain conditions.

Students intending to teach, or to enter the ministry, should take Psychology in the the third year of residence.

Students wishing to specialize in Philosophy, or to take the course in Pedagogics, may take Psychology ia the second year of residence.

*Only given in alternate years.

PHYSICS.

FIRST SEMESTER.

1. **Experimental Physics:** Lectures and Recitations on Mechanics, Sound and Heat, supplemented with exercises in the laboratory, 3 hours.
3. **Experimental Physics:** Continuation of Courses 1, 2; includes Light, Electricity and Magnetism. Stewart's lessons in Elementary Physics, or an equivalent, is required for admission to these courses, ... 2 "
5. Electrical Measurements: Special problems involving exact electrical measurements, supplemented by readings on problems assigned, ... 3 "
7. Mechanics and Sound: Advanced Laboratory Course.—Comprising the comparison and determination of the standards of length, mass and time, and the measurement of the more important constants in the dynamics of solids and fluids, ... 3 "
9. Heat: Advanced Laboratory Course.—Special problems in Thermometry, Expansion, Calorimetry, Vapor Density and Tension, Conduction, Radiation and the Applications of Thermodynamics, 3 "
11. Light: Advanced Laboratory Course.—Special studies and measurements in Photometry, Lenses, Refraction, Interference, Diffraction, Polarization, Spectroscopy and Spectrophotometry, ... 3 "
13. Electricity: Advanced Laboratory Course.—Devoted more especially to the determination and comparison of Electrical Constants and the testing of Electrical Instruments. Special attention may be given to Electro-Optics, ... 3 "
15. **Advanced Physics:** Application of Calculus to the solution of Physical problems, supplemented with laboratory work, ... 4 "
17. Mathematical Theory of Electricity and Magnetism: Requires a knowledge of Calculus and its applications and should be preceded by 15, ... 4 "
19. Advanced Physics: Readings and discussions. Intended for graduate and advanced students desiring to devote special attention to Theoretical Physics. Students will read from Kirchhoff, Somoff, and Thomson and Tait on Mechanics; Rayleigh, Helmholtz, and Lamb on Sound and Fluid Motion; Bertrand, Verdet, Clausius, and Fourier on Thermodynamics and Conduction; Parkinson, Kirchhoff, Thomson, Rayleigh, Verdet, Mascart and Poincare on Light; and Thomson, Helmholtz, Maxwell and Mascart and Joubert on Electricity and Magnetism, ... 2 "
21. General Astronomy: Includes the major portion of Young's General Astronomy, with exercises in Practical Astronomy, ... 2 "

SECOND SEMESTER.

2. **Continuation of Course 1,** ..... 3 hours.
4. **Continuation of Course 3,** ..... 2 "
6. Continuation of Course 5, ... 3 "
8. Continuation of Course 7, ... 3 "

10. Continuation of Course 9,..... 3 hours.
12. Continuation of Course 11,.....3 "
14. Continuation of Course 13,.....8 "
16. Continuation of Course 15,.....4 "
18. Continuation of Course 17,.....4 "
20. Continuation of Course 19,.....2 "
22. Continuation of Course 21,.....2 "

POLITICAL AND ECONOMIC SCIENCE.

FIRST SEMESTER.

1. Elementary Political Economy,.....3 hours.
   This course must precede all others in this department.
3. Financial History of the United States; lectures, readings and reports,.....3 "
   This course will not be given in 1894-95.
5. History of Economics,.....3 "
   This course will be first given in 1894-95.
7. The Elements of International Law,.....3 "

SECOND SEMESTER.

2. Advanced Political Economy; discussions, parallel readings and reports,.....3 hours.
4. Tariff History of the United States; lectures, readings and reports, 3 "
   This course will not be given in 1894-95.
6. Practical Economics; topics of the day—lectures, theses, discussions, 3 "
8. Economic and Industrial History; lectures, readings and reports,..3 "
   This course will be first given in 1894-95.

ROMANCE LANGUAGES.

FRENCH.

FIRST SEMESTER.

1. **Beginners' Class.** Grammar and exercises, Edgren, Part I; easy reading,.....5 hours.
3. **Modern French Narrative,** prose and drama: Souvestre, Confessions d'un ouvrier; Erckmann-Chatrian, L'Ami Fritz; Michelet, Recits d'Histoire de France; private readings,.....3 "
5. Classical French Prose; with readings from the works of Pascal, Fenelon, La Bruyere and others,.....2 "
7. **Scientific French:** Causeries scientifiques, and other scientific readings,.....2 "
9. Composition, sight reading and conversation, ...2 "
11. Study of XVI Century Authors, and of the Renaissance in France: Darmestetter and Hatzfeld, La seizieme siecle en France,.....2 "

SECOND SEMESTER.

2. **Reading of easy French authors,** such as France, Abeille; de Musset, Pierre et Camille; Lamartine, Jeanne d'Arc; Labiche, Le voyage de M. Perrichon; private readings,.....5 hours.
4. **Novels and Plays of the Romantic school:** G. Sand, La Mare au diable; A. Dumas, La tulipe noire; Victor Hugo, Hernani; Crane, Le Romantisme français; private readings,.....3 "
6. Classical French Drama: The rapid reading of plays of Moliere, Corneille, Racine, and Voltaire,.....2 "
8. **Scientific French:** Reading of scientific authors.....2 "
10. Composition: sight reading and conversation,.....2 "
12. Study of Old French: La Chanson de Roland, ...2 "

For all students of French, courses 1 and 2 must precede all others. These courses completed, all others are open.

SPANISH.

FIRST SEMESTER.

1. Grammar and easy reading,.....2 hours.

SECOND SEMESTER.

2. Knapp's Spanish Readings, Don Quijote, ...2 hours.

Spanish and Italian are given in alternate years. Italian will be offered again in 1894-95.

TAXIDERMY.

Instruction and laboratory work, three hours per week through the year—to count each semester as.....1 hour.

ZOOLOGY.

FIRST SEMESTER.

1. General Zoology,.....3 hours.
2. Invertebrate Morphology,.....2 "
5. Normal Histology,.....2 "

SECOND SEMESTER.

2. General Zoology, continuation of 1,.....3 hours.
4. Vertebrate Comparative Anatomy,.....2 "
4*a*. Comparative Osteology,.....1 "
6. Vertebrate Embryology,.....2 "

Courses 1 and 2 are required as introductory to all others, and course 5 must precede course 8.

GRADUATE INSTRUCTION.

Graduates of this and similar institutions, and other persons of approved attainments, are provided advanced instruction in certain lines of study, with or without reference to degrees.

The subjects in which Graduate Instruction is offered for 1893–94, are the following:

AGRICULTURE.

Advanced work in Stock Breeding and Pedigrees; Feeding and Feeding Rations; Dairying; Rotation of Crops; Irrigation and Drainage.

BOTANY.

Advanced work in Vegetable Anatomy and Physiology, and the Structure and Classification of the Lower Plants.

CHEMISTRY.

Analysis of Minerals and Waters of the State; Ultimate Analysis of Organic Products; Analysis of Gases; Study of Unsolved Chemical Problems; Advanced work in Sugar Chemistry.

CIVIL ENGINEERING.

Geodesy; and such other instruction as may be demanded.

ELECTRICAL ENGINEERING.

A full year's work, in continuation of the course on page 13.

ENGLISH LITERATURE.

Anglo-Saxon and Middle English; English, or American Literature.

EUROPEAN HISTORY.

French Seminar.—Students who have given a year to the seminar work on the Reformation, and have had two years of French, may become members of this seminar. The topics are chosen from the periods of the Absolute Monarchies and of the French Revolution.

GERMAN AND GOTHIC.

Old and Middle High German; Gothic and its relations to other German dialects; Germanic Philology.

GREEK.

Epic Poetry; Attic Drama; The Orators.

LATIN.

The Satirists; The Roman Drama; Roman Law.

MATHEMATICS.

Higher Geometry; Higher Trigonometry.

PHILOSOPHY.

The department of Philosophy offers no formal courses, but will continue to direct the work of a few candidates for higher degrees.

ROMANCE LANGUAGES.

French.—Lectures on French Literature of the XVIII and XIX Centuries; Study of XVI Century Authors; The Study of Old French—La Chanson de Roland.

Italian.—Grammar and Easy Reading, and the Reading and Study of Dante. Courses will be offered in Provençal and in Romance Philology.

SANSKRIT.

Grammar and Reader: Selections from the Hitopadeça, Manu, Rig Veda.

THE DEGREE OF MASTER OF ARTS.

The degree of Master of Arts is conferred upon graduates of this or any other institution of equivalent undergraduate courses, who have passed satisfactory examinations in certain lines of study pursued under the direction of the Faculty.

None but resident students are eligible to examination for the degree of Master of Arts, and at least one year's study (full time) is required. "Residence" may be interpreted by the heads of departments in which work is carried, subject to advice of the standing committee on graduate work; but must signify such sharing of University privileges and opportunities as shall be equivalent to residence in the shadow of the University. The candidate may give his whole time to a single (or **complete**) subject in some one department; or, if he prefer, having so arranged his time as to devote 60 per cent to a **Major** subject in a given department, he is at liberty either to give the remaining 40 per cent to one **First Minor** subject in some kindred department, or to divide it between two **Second Minors,** in two kindred departments, each having a value in time of 20 per cent. The minimum amount of time, or work, necessary to render the candidate eligible to examination for the degree, may therefore be represented by 100. This minimum being reached, candidates may offer for higher standing other subjects in any department they may choose.

Instruction is given to candidates for the Master's degree in connection with studies selected as above, but not otherwise; except that all members of the Faculty, on request, will aid candidates in the selection of their subjects and from time to time advise and assist them in preparing for their examinations. The examination is mainly written, and the result in each subject is determined by a committee consisting of an examiner and an associate. Each candidate after passing the examination, must present an acceptable thesis upon some topic included in the studies of the year. A thesis must represent independent work, and must be a real contribution to knowledge even though done along well understood lines.

All candidates for the degree of A. M. must pay to the steward a fee of $10 before examination.

THE DEGREE OF DOCTOR OF PHILOSOPHY.

The degree of Doctor of Philosophy is given for three years of graduate study, and the presentation of an acceptable thesis. Further conditions will be made known on application to the Faculty.

COLLEGE OF LAW.

The College of Law has been thoroughly reorganized and presents instructional facilities not only improved by past experience, but better than those of many Law Colleges of greater prominence in the West.

Young men who wish to come to the Bar of this state should understand that the two years course here is most carefully arranged; that here they will *study* rather than simply *read* law, and with correspondingly excellent results.

ADMISSION.

All students of the law should be possessed of a good English education. For the present no more specific statement of the requirements for admission to the College of Law will be made than this: Each applicant must satisfy the Law Faculty that his educational advantages have been such as to warrant his taking up the study of the law with reasonable assurance of success.

COURSES.

The College furnishes in two years a course of legal instruction that admits to the Bar of this state. In addition to this, a third year has been added as a post-graduate course, in which students having time and means at their disposal may prosecute the study of more recondite branches of the law, and in which special attention is given to Advocacy, Preparation for Trial, and the work of auxiliary courses in University groups, such as History, Political Economy, etc.

The attention of younger members of the Bar is called to this third year as of special value to themselves.

DEGREES.

The degree of Bachelor of Laws is conferred upon such students as pursue the two years course to the satisfaction of the Regents of the University and the Faculty of the College of Law, and pass the required examinations.

The degree of Master of Laws is granted for creditable work in the post-graduate course, carried by those having earned their first degree.

Students whose time and means will not permit them to complete the course, will receive certificates of proficiency, according to the merit of their work.

SPECIAL PRIVILEGES.

Students have all the library, gymnasium, and other privileges of other students of the State University, and may enter classes and carry special courses without further fees.

The use of the state law library is free to the students of the College of Law, and should be a great inducement to carrying their work at Lincoln. Other inducements are the opportunities for attendance upon all forms of courts, State and Federal, including the Supreme Court of the State; and during each second year, at least, becoming acquainted with the forms of legislation by attendance upon the session of the state legislature.

FEES.

Matriculation fee, $5, payable in advance. Annual tuition fee, $30, payable in advance, though the payment of one-half may be deferred until the middle of the College year on special request and for good cause shown. Diploma fee, $5. Fee for instruction on any one topic, $7.50.

METHODS OF INSTRUCTION.

It is believed that definite and permanent impressions concerning the principles and rules of law are best acquired by the study of standard text-books in private, followed by the examinations and explanations of the recitation room. Students will be expected to study law precisely as students study any other topic in the curriculum of the University. The curriculum which follows is based upon the use of text-books, with daily recitations of at least one hour each. As far as possible one-volume text-books will be used, and each student must provide his own volumes. This expense is not more than he can bear; especially as the volumes form the corner stone of his future law library.

Moot courts are held weekly throughout the year, with General Terms from time to time for the hearing of cases appealed from other courts in the college. This work is made as thoroughly practical and effective as possible, each student taking in turn the position and duties of each officer of the court. Opportunity is also given for the organization of Club Courts among the students, with every facility for practice in the preparation and conduct of cases, and for appeals from these to the Moot Court.

Lectures are given from time to time, not only by members of the Faculty, but by others eminent at the Bar of the State. The first half hour of each lecture period is devoted by the lecturer to quizzing the class on the previous lecture, and the remainder of the time is given to the work in hand.

THE COURSES.

JUNIOR.

Elementary Law
Domestic Relations
Contracts
Torts and Negligence
Principal and Agent
Bills and Notes
Partnership
Sales
Carriers and Bailments

SENIOR.

Evidence
Pleading (Common Law)
Equity
Pleading (Equity)
Personal Property
Real Property
Pleading (Code)
Corporations
Municipal Corporations
Constitutional Law

LECTURES.

JUNIOR.

Criminal Law
Executors and Administrators (Wills)
Insurance
Landlord and Tenant
Admiralty

SENIOR.

Damages
Federal Jurisprudence
Judgments and Executions
Federal Practice
International Law

POST-GRADUATE COURSE.

Extraordinary Remedies
Taxation
Patent Law
Mining and Irrigation
Railway Law
Receivers
Forensic Elocution
Constitutional History
Roman Law and Comparative Jurisprudence

SPECIAL COURSES.

PREPARATORY TO LAW AND JOURNALISM.

FIRST YEAR.

FIRST SEMESTER.

English,	5,	3-5 course.
European History,	5,	3-5 "
Philosophy,	9,	3-5 "
Political Science,		1:1-5 "

SECOND SEMESTER.

American History,	6	3-5 course.
English,	5,	3-5 "
English Literature,	12,	4-5 "
European History,	6,	3-5 "
Political Science,		3-5 "

SECOND YEAR.

FIRST SEMESTER.

American History,	9,	3-5 course.
American History,	10 or 12,	3-5 "
English Literature,	4,	3-5 "
European History,	7,	3-5 "
European History,	11,	3-5 "

SECOND SEMESTER.

American History,	11 or 13,	3-5 course.
English Literature,	5,	3-5 "
European History,	8,	3-5 "
European History,	12,	3-5 "

PREPARATORY TO MEDICINE.

FIRST YEAR.

English: Spelling, Capitalization, Punctuation and Pronunciation; and a thorough, logical study of English Grammar,	4-5 course.
Latin: Elementary, and one book of Cæsar,	2 "
Mathematics: Algebra and Geometry,	2 "
Science: Elementary Botany, Chemistry and Physics,	2 "

SECOND YEAR.

Zoology	1. 2.	1:1-5	courses.
Botany,	1. 2.	4-5	"
Chemistry,	1. 2.	4-5	"
English,	1. 2.	4-5	"
Physics,	1. 2.	1:1-5	"
Hygiene,		2-5	"

THIRD YEAR.

Botany,	3. 4.	4-5	courses.
Chemistry,	3. 4.	1:1-5	"
Comparative Anatomy and Human Osteology,		2	"
Histology and Embryology,		4-5	"
Philosophy,	1. 2.	1:1-5	"
Physiology,		4-5	"

Students completing this course will receive certificates of their proficiency, and by special arrangement are admitted (without preliminary or entrance examinations) to the *third year* and *second course of lectures* of the Cincinnati College of Medicine and Surgery, to the *second year* in the Boston University School of Medicine, in the Medical School of the University of Pennsylvania, and in the Northwestern Medical School (Chicago Medical College), and to the *first year* in the St. Louis Medical College, and the Department of Medicine and Surgery, University of Michigan. Other institutions of equal standing have promised similar recognition, but have not yet taken formal action.

SHORT COURSE IN PEDAGOGICS.

FIRST SEMESTER.

American History,	1	5	hours.
English Literature,	4	3	"
Philosophy,	1. 3. 5.	7	"
Political Economy,		3	"

SECOND SEMESTER.

American History,	2	5	hours.
Philosophy,	2. 4. 6. 15. 16.	11	"
Special Methods,		1	hour.

Graduates of the University who have received credit in the above subjects will be entitled to a Certificate in Pedagogy.

SHORT COURSE IN AGRICULTURE.

FIRST SEMESTER.

Agriculture,		3	hours.
Horticulture,		2	"
Hygiene,		1	hour.
Mathematics: Algebra and Geometry,		5	hours.
Manual Training,		4	"
Science: Botany, one hour; Chemistry, two hours; Physics, two hours,		5	"

SECOND SEMESTER.

Agriculture,.....3 hours.
Horticulture,.....2 "
Hygiene,.....1 hour.
Mathematics: Algebra and Geometry,.....5 hours.
Manual Training,.....4 "
Science: Botany, one hour; Chemistry, two hours; Physics, two hours, 5 "

THE SUGAR SCHOOL.

Recognizing a demand for a Sugar School in which instruction and training may be offered in all the processes connected with the beet sugar industry, the University has determined to do what it can in the way of special work in this line. To that end a short course, beginning in January, has been prepared for those who wish to secure more technical knowledge than is ordinarily obtainable. Any person having a fair general education, and a knowledge of chemistry equivalent to a thorough acquaintance with Shepard's Chemistry and some laboratory practice, can take up this course. Students must matriculate as students in the University (that is, pay the fee of five dollars, which will entitle them to take this and other special work in the institution for a practically indefinite period) and make the usual deposit for breakage and other laboratory expenses. The latter will not exceed six dollars for the entire course.

The following courses of instruction are offered:

I. Technology of sugar manufacture.

Beet silos. Hydraulic beet carrier. Washing machine for beets. Weighing and slicing the beets. Diffusion process. Beet refuse and its utilization.

Purifying of juice. Lime kiln. Preparation of lime milk. Lime milk pump. Carbonic acid washer. Carbonic acid pump. Mixer for lime milk and juice. Double carbonation. Automatic juice pump. Filter press. Washing of lime cakes. Mechanical filtration. Bone-black filtration. Revivifying the bone-black. Washing machine. Acidifying the bone-black. Roasting the bone-black.

Evaporation. Double, triple, and quadruple effects. Air pump, wet and dry. Condenser for wet air pump. Condenser for dry air pump.

Vacuum pan. Mixer for masse-cuite. Centrifugals. Sugar conveyor and elevator. Granulator.

Molasses and its utilization.

II. Analytical chemistry as applied in control of factory operations.

Sugars, and substances containing sugar.

Position of the sugars among the carbohydrates and other carbon compounds.

Methods of analysis.

Polariscopic methods.

(*a.*) Cane-sugar in the presence of dextrose or of invert-sugar.

(*b.*) Cane-sugar in the presence of raffinose.

Specific gravity methods.

Chemical methods.
(*a.*) Gravimetric.
(*b.*) Volumetric.

Specific directions for the complete analysis of the following substances:
Sugar beets, sugar, syrup, masse-cuite, molasses, thin juice, diffusion juice, sweet water, saccharate of lime, strontium saccharate, press cake, bone-black, exhausted cossettes, carbonation gas, water, limestone, coke, coal.

III. Sugar beet agriculture.
1. The sugar beet and its varieties.
2. History of beet sugar industry; general view.
3. Natural and artificial distribution of sugar-producing plants.
4. Discussion of soils and climatic conditions necessary to success.
5. Growing the beet crop.
(*a.*) Soil preparation.
(*b.*) Seeding.
(*c.*) Cultivation.
(*d.*) Harvesting.
(*e.*) Time of each of above.
(*f.*) Implements and improvements.
(*g.*) Cost, profit, etc., alone in a rotation of crops.
(*h.*) Fertilizers and their use.
6. The growing of sugar beet seed.
(*a.*) Seed tests.
(*b.*) Plant tests in connection with seed.
7. Preservation of sugar beets.
(*a.*) Silo construction.
(*b.*) The conditions necessary to success.
8. The production of new varieties of sugar beets, with increase of sugar content.
9. Irrigation for special locations, with results.
10. The sugar movements of the world.
(*a.*) Production.
(*b.*) Exports.
(*c.*) Imports.

IV. Steam as applied in factories.
Types of boilers. Material of boilers. Properties of steam. Boiler design and construction. Boiler setting, and fitting. Fuels. Care and management of boilers. Steam piping.

V. Steam machinery.
Nature of heat. Pressure and volume of gases. Expansion of steam. Distribution of steam in cylinders. Steam engine indicators. Stationary land engines. Engine detail. Care and management of engines.

VI. Optical instruments.
Light. Polarization of light. Polariscopes. Care and management of polariscopes in the sugar house.

Laboratory practice throughout the course.

Those who carry this work successfully will be ready to do any of the chemical work connected with the sugar factories. If they desire to remain through the summer, on the experimental farm they can learn the practical side of beet raising.

It is intended to develop this course into a full Sugar School, to meet the demand coming not only from this state but from other parts of the country, and from other countries as well.

SHORT COURSE FOR FARMERS.[1]

(Four Lectures Daily.)

To meet a steadily growing demand on the part of the farmers of Nebraska, and especially on the part of young farmers, for information on matters of every day interest to those engaged in agriculture, the University has established a short course of lectures which will set forth in a condensed and popular form the latest results of investigation and experiment in the lines indicated by the topics mentioned.

For the coming winter, at least, there will be no charges or expenses connected with the course; other than the usual personal expenses of those attending, while in the city. These can very easily be kept within one dollar a day, if it is so desired. Inquiries as to places and cost of board will be promptly answered.

There will be opportunity between the lectures and during the evenings for much reading, both general and special. The University Library is open until 9:30 p. m., and the reading room of the City Library is accessible to all. The various class rooms of the University and its museums and laboratories are open to those taking the proposed course.

Subjects.

Four Essentials of Good Citizenship.
How much Education does the Farmer Need?
What is a Plant?
How Plants Grow.
How Plants Feed.
The Reproduction and Cross-breeding of Plants.
The Germination of Seeds.
The Relation of Entomology to Agriculture and Horticulture.
Structure, Development, Transformation, and Classification of Insects.
Insect Enemies of Grains and Grasses.
Insect Enemies of Garden, Orchard, and Forest.
Insect Enemies of Man and Domestic Animals.
Careful Scientific Farming
Education vs. Legislative Enactments.
Manual Training and Farming.
Advancements in Farm Machinery.
Selection and Care of Tools.
How to Make Good Roads (3 lectures).
Best Varieties of Apples; How to Grow and Handle Them.
The Vineyard.
Ornamental Shrubs and Trees.

Forestry and Wind-breaks.
Small Fruits.
Geology of Nebraska.
Soils.
Electricity and Agriculture (2 lectures)
Physics and Agriculture (2 lectures).
Soundness in Animals.
Horses' Feet.
Stable and Farm Hygiene.
Anatomy and Physiology of Horses and Cattle.
Infectious Diseases of Animals.
Meteorology.
Plant Diseases; Their Nature and Remedies.
The Rust of Wheat, Oats, and Corn.
The Smut of Wheat, Oats, and Corn.
Apple and Potato Scab.
Agriculture; Ancient and Modern.
Heredity.
Science and the Dairy.
The Sheep Industry.
Apiculture (2 lectures).
Soils and Fertilizers.
Commercial Dairying.

1. Course for 1893.

SPECIAL WORK FOR NEBRASKA TEACHERS.

SUMMER SCHOOL.

The University authorities, encouraged by the success of the Summer School, have determined to repeat the experiment.

The School will open its lecture courses on the Monday following Commencement, and close on the third Friday thereafter. Students will find laboratories and libraries open on the day after Commencement. All applications for membership must be filed at the office of the Chancellor on or before May 1st, though others will be received later if classes are not full. Not less than ten must enroll in any given department, to secure a class. Any department not enrolling ten by the date specified may withdraw its offer of work; and immediate notice to this effect will be sent to all who have applied. Laboratories and libraries will be accessible to all who enter the School.

Each student must be regularly matriculated and registered before taking up class work. The matriculation fee is $5. There will be no other fees or charges, except the usual deposit by those working in laboratories of a small sum to cover possible damage to apparatus and for the use of laboratory supplies.

Work is offered by the Department of Physics, in Natural Philosophy; by the Department of Civil Engineering, in Land Surveying and in Graphics; by the Department of Botany, in Elementary Botany; by the Department of Chemistry, in Elementary Chemistry; by the U. S. Experiment Station Entomologist, in Entomology; by the Department of European History, in methods of teaching European History; by the Department of Philosophy, an introductory course in Psychology, a course on the study of Children, and two lectures (each) on Comenius, Pestalozzi, Froebel; by the Department of Mathematics, in Trigonometry and Conic Sections; by the Department of Germanic Languages, an elementary course, and reading in classic texts; by the Department of Latin, in methods of teaching Vergil—and, possibly, a class in Cicero; by the Department of American History and Civics, (probably) a course in American History.

WORK *IN ABSENTIA.*

The University now offers this special inducement and opportunity to all *teachers* in Nebraska. It will hold regular entrance examinations prior to the Summer School, either at the University or by written papers at the residence of the applicant. Any teachers securing in this way entrance credits in English Grammar and Analysis, U. S. History, Descriptive and Physical Geography, Arithmetic, Physiology and Hygiene, Algebra, Geometry and General History, upon payment of the usual matriculation fee will be duly registered as students of the University. They will be given free use of the libraries, laboratories and class-rooms at any time when they may be able to be in attendance, they will have the advantage of the Summer School without further expense, their work *in absentia* will be directed by the Faculty of the University, and they will be duly examined (always at the University) whenever they may have completed any given subject. These examinations will be thorough and searching, and must be well sustained. All results of these examinations will be passed to their credit on the books of the University, and on request they will receive a certificate of the same. Students not receiving three credits each year will be dropped from the rolls.

When any such teacher-student has received sufficient credits to bring him within a year's work of graduation and of a degree, he may receive such degree on taking one year's resident work at the University.

The University authorities desire it to be distinctly understood that work in this way is necessarily carried under many and great disadvantages. It cannot for a moment be compared in breadth, strength and thoroughness with the same courses pursued under instruction at the University. It calls for much methodical effort and self-denial. But with such effort and self-denial enough may be accomplished, the University believes, to warrant the assistance and recognition it now offers.

A teacher accepting this offer has the opportunity to do regular work under competent advice and counsel, with the incentive of formal recognition by a degree at the close of the term.

SCHOOL OF ART AND MUSIC.

It is not yet possible for the University to open the College of Fine Arts. The teachers of Art and Music are therefore permitted to charge for tuition in certain branches. The University Courses are free.

GRAPHIC ART.

(*University Courses.*)

FIRST SEMESTER.

1. Lectures on the History of Sculpture and Painting,..... .....2-5 course.
3. Lectures on the History of the Styles of Architecture,.....1-5 "
5. Artistic Anatomy,.....1-5 "
7. Perspective,.....1-5 "

SECOND SEMESTER.

2. Continuation of Course 1,..... 2-5 course.
4. Continuation of Course 3,.....1-5 "
6. Continuation of Course 5,.. .....1-5 "
8. Continuation of Course 7,.....1-5 "
9. Drawing: For all students in Preparatory courses, in connection with manual training.

(*Private Work.*)

Instruction is given in Drawing and Painting from the flat, from casts, still life, nature, and live models in the progressive order necessary to systematic training of the eye and hand. Pupils are required to provide easels and material; the studio furnishes an ample selection of casts and studies.

TUITION FEES.

Daily lessons, one semester,.....$40
Four lessons weekly, one semester,..... 32
Three lessons weekly, one semester,..... 25
Two lessons weekly, one semester,..... 18
One lesson weekly, one semester,..... 10

Instruction is also offered in Clay Modeling, Wood Carving and China Painting; in Painting in Water Colors; and in Sketching in pencil, pen-and-ink, or in water-color, in connection with the life sketch class.

The adult class in Clay Modeling works from the antique; doing hands, feet, heads, and figures, in relief and in the round.

The childrens' class models leaves, fruits, and other natural objects.

The Water-Color class works from still life.

The costume and sketch class works from life; the members of the class posing in turn, or providing models.

TUITION FEES.

Water Colors, Clay Modeling, Wood Carving, China Painting,	Three lessons a week, one semester	$24
	Two lessons a week, one semester	16
	One lesson a week, one semester	10
Costume and Sketch Class: Three lessons a week, per month,		3
Sketch Class only: Three lessons a week, per month,		2

MUSIC.

(University Courses)

FIRST SEMESTER.

1. Elementary instruction in Vocal music; training in correct fundamental principles, preparatory to sight reading. Chorus work...1 hour.
3. Sight reading, choral training; including membership and practice in the University chorus. Applicants for this course must have carried courses 1. 2.; or show equivalent training,.....1 "
5. Orchestral Training: membership and practice in the University orchestra, with recitals and programmes,.....2 hours.

SECOND SEMESTER.

2. Continuation of Course 1,.....1 hour.
4. Continuation of Course 3,.....1 "
6. Continuation of Course 5,.....2 hours.

Courses 1. 2. carried one year, combined with courses 3. 4. carried three years, count as a 3-5 course.

Courses 5. 6. count as 1-5 course for each year.

(Private Work.)

Private instruction is given in the various branches of Music, as follows:

I. The Pianoforte---Four years of study:

First Two Years.—Lebert and Stark's First and Second Books, Plaidy's or Handrock's Technical Studies.—Czerny, Kohler, Bertini, Loeschhorn, and Heller's Studies. Preludes by Bach.

Third Year.—Lebert and Stark's Third Book, Krause's and Tausig's Technical Studies, Etudes by Loeschhorn, Kullak, and Cramer. Sonatas and other works of Clementi, Mozart, and Mendelssohn. Bach's Inventions and Sonatas.

Fourth Year—Moscheles, Beethoven, Schumann, Rubinstein, Liszt, and Chopin.

Particular attention is paid to technique, style, phrasing, and to that which constitutes the chief power of the performer, expression.

The Conservatory or Class System is employed, or private lessons are given; at the option of the pupil.

II. The Organ.—Lessons are given on the Pipe and Reed Organ. The technical works of Best, Stainer, Rinck, etc., and the Compositions of Bach, Mendelssohn, Merkel, Guilmant, etc., are used.

III. The Voice.—A thorough and systematic course is given in Voice Culture. Utmost care is taken in training the voice, in management of the breath and the vocal organs. Carefully selected exercises, scales (major, minor, and chromatic), and arpeggios are given in order to obtain flexibility of voice and a clear enunciation of words.

Classes in the rudiments of Music will be formed, if a sufficient number desire.

IV. Musical Theory.—Harmony, Counterpoint, Fugue, Form, Instrumentation, Composition, etc., may be studied separately or in classes.

V. The Violin.—In the study of this instrument a course is given, beginning at the foundation and progressing through the entire school of Violin-playing.

For beginners, Mazas', Dancla's, and Wichtl Methods are used.

For more advanced work, the Etudes of Kayser, Mazas, Kreutzer, Fiorillo, Rode, and Dancla are used. Sonatas, pieces and selections are also given from Classic and Modern Composers.

Instruction is also given on the other stringed instruments, such as the Viola, Violoncello, and the Double-Bass.

Public Recitals and Concerts are given during the year, in which the pupils are expected to take part, in order that they may gain confidence and self-control by performing before audiences.

TUITION FEES.

For a period of ten weeks—Two one-hour lessons per week—in Piano, Organ, Violin, or Voice-Culture; payable, one-half in advance, and the balance at the middle of the term, ... $20.00

For the same instruction—Two half-hour lessons per week, ... 10.00

(Not less than two half-hours per week will be given.)

Class of two, each student, ... 10.00

Class of three, each student, ... 7.50

Class of four, each student, ... 6.00

HARMONY.

Private lessons, one hour $15.00

Class lessons, each, ... 10.00

PIANO RENT.

One hour daily, per month, ... $1.00

No deduction will be made for temporary absence from lessons, or for lessons discontinued, except in cases of illness; deduction being made from date of notification to the instructor. An opportunity will be given to make up the same at a subsequent term.

Students may enter at any time. The term begins from the date of entrance.

SCHEDULE OF PREPARATORY COURSES

ACADEMIC COLLEGE

	Semester	CLASSICAL AND ENGLISH GROUPS	Recitations Per Week	PHILOSOPHICAL AND LITERARY AND ENGLISH GROUPS	Recitations Per Week
FIRST YEAR	FIRST	English[1] / Greek History	2 / 3	English[1] / Greek History	2 / 3
		Algebra	5	Algebra	5
		Hygiene[2]	1	Hygiene[2]	1
		Latin: First Lessons[3]	5	Latin: First Lessons[3]	5
	SECOND	English[1] / Roman History	2 / 3	English[1] / Roman History	2 / 3
		Algebra	3	Algebra	3
		Geometry	2	Geometry	2
		Hygiene[2]	1	Hygiene[2]	1
		Latin: First Lessons[3]	5	Latin: First Lessons[3]	5
SECOND YEAR	FIRST	English: Two themes		English: Two themes	
		Algebra	2	Algebra	2
		Geometry	3	Geometry	3
		Manual training[4]	1	Manual training[4]	1
		Latin: Caesar	5	Latin: Caesar	5
		Greek: First Lessons	5	Botany, Chemistry, Physics (combined)[5]	5
	SECOND	English: One theme		English: One theme	
		Geometry	5	Geometry	5
		Manual training[4]	1	Manual training[4]	1
		Latin: Cicero	5	Latin: Cicero	5
		Greek: First Lessons, Anabasis I	5	Botany, Chemistry, Physics (combined)[5]	5
[8] Additional		Vergil[9]	3	Vergil[9]	3
		Anabasis[10]	5	French or German[9]	5
		Homer[10]	5		

INDUSTRIAL COLLEGE

Semester	AGRICULTURAL GROUP	Recitations Per Week	CIVIL ENGINEERING	Recitations Per Week	ELECTRICAL ENGINEERING	Recitations Per Week	GENERAL SCIENTIFIC	Recitations Per Week
FIRST	English[1] / Greek History	2 / 3	English[1] / Greek History	2 / 3	English[1] / Greek History	2 / 3	English[1] / Greek History	2 / 3
	Algebra	5	Algebra	5	Algebra	5	Algebra	5
	Hygiene[2]	1	Hygiene[2]	1	Hygiene[2]	1	Hygiene[2]	1
	Language[6] or Agriculture 3 Horticulture 2	5	Language[6]	5	French or German[7]	5	Language[6]	5
SECOND	English[1] / Roman History	2 / 3	English[1] / Roman History	2 / 3	English[1] / Roman History	2 / 3	English[1] / Roman History	2 / 3
	Algebra	3	Algebra	3	Algebra	3	Algebra	3
	Geometry	2	Geometry	2	Geometry	2	Geometry	2
	Hygiene[2]	1	Hygiene[2]	1	Hygiene[2]	1	Hygiene[2]	1
	Language[6] or Agriculture 3 Horticulture 2	5	Language[6]	5	French or German[7]	5	Language[6]	5
FIRST	English: Two themes		English: Two themes		English: Two themes		English: Two themes	
	Algebra	2	Algebra	2	Algebra	2	Algebra	2
	Geometry	3	Geometry	3	Geometry	3	Geometry	3
	Manual training[4]	1	Manual training[4]	1	Manual training[4]	1	Manual training[4]	1
	Language[6]	5	Language[6]	5	German or French[7]	5	Language[6]	5
	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics, (combined)[5]	5
SECOND	English: One theme		English: One theme		English: One theme		English: One theme	
	Geometry	5	Geometry	5	Geometry	5	Geometry	5
	Manual training[4]	1	Manual training[4]	1	Manual training[4]	1	Manual training[4]	1
	Language[6]	5	Language[6]	5	German or French[7]	5	Language[6]	5
	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics (combined)[5]	5	Botany, Chemistry, Physics (combined)[5]	5
[8] Additional	French or German[9]	5	French or German[9]	5			French or German[9]	5

[1] Composition and Higher Grammar. [2] One lecture, and two hours (four 30-minute periods) gymnasium work, each week. [3] Inductive method. [4] Includes Modeling and drawing, one hour each week, and shop work two hours each week. [5] The work in these three sciences is so alternated as to be equivalent to one subject each day in the week. [6] Latin or French or German. [7] This group requires one year each of French and German. [8] This work may be carried in connection with University courses, but may not count as such courses, being preparatory work. [9] Through one year. [10] Through one semester.

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